

ABSTRACT

A novel air cooling ring is provided herein for supplying successive streams of cooling air to a surface of a tubular bubble of plastic, after its extrusion from an annular die surface, the annular die surface having a die axis. The air cooling ring includes a ring-shaped plenum chamber which is provided radially-outwardly of the die axis from annular die orifice. The ring shaped plenum chamber has an air inlet, and an air outlet. The ring-shaped plenum chamber also includes an upper lip, which includes such air inlet and the air outlet, and a lower deflector lip. A forming cone extends radially outwardly from the air cooling ring. An annular air passage, which is formed in the forming core, communicates with the air outlet in the ring-shaped plenum chamber. A plurality of axial outlet ports is provided in that annular air passage. An annular air chamber communicates with the plurality of axial outlet ports to direct cooling air downwardly and radially-outwardly to a lower annular air outlet, and then to divert the cooling air both in an upward direction between a surface of the forming cone and the tubular bubble of plastic and radially-and-horizontally-inwardly between the lower portion of the upper lip of the ring and the deflector lip.

10043375-010902